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Amendments to the Claims

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims

1.   (Currently amended) A method in a computer system for relocating defective sectors on a formatted disk, comprising:

      performing standard data processing of <u>a predetermined set</u> ~~a plurality~~ of logical sectors that are mapped to a first plurality of physical sectors, wherein the first plurality of physical sectors reside in a first area of the formatted disk~~, and wherein each of the first plurality of physical sectors for which an error is encountered while performing standard data processing is identified as a defective sector~~

      <u>identifying as a defective sector those sectors of the first plurality of physical sectors in which an error is encountered during standard data processing</u>;

      storing defect information in a memory for each of the defective sectors that are mapped to by the plurality of logical sectors;

      <u>continuing standard data processing of the predetermined set of logical sectors;</u>

      <u>upon completion of the standard data processing for the predetermined set of logical sectors</u> performing a seek command to a second area of the formatted disk; and

      performing relocation~~, upon completion of performing standard data processing and storing defect information,~~ based on the defect information stored in the memory, wherein the relocation includes re-mapping the plurality of logical sectors, that were mapped to defective sectors, to a second plurality of physical sectors, wherein the second plurality of physical sectors reside in the second area of the formatted disk.

2.   (Currently amended) The method of claim 1 wherein the standard data processing includes <u>either</u> a read command, a write command, or a verify command.

3.   (Original) The method of claim 1 wherein the defect information includes logical to physical sector mapping.

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5.   (Original) The method of claim 1 wherein the first area of the formatted disk is a
prime disk area.

6.   (Original) The method of claim 1 wherein the second area of the formatted disk is a
defect management area.

7.   (Currently amended) A method in a computer system for relocating defective
sectors on a formatted disk, comprising:

      performing standard data processing in a first area of the formatted disk, wherein
          the first area of the formatted disk includes a first plurality of physical
          - sectors;

      identifying defective sectors in the first area while performing the standard data
          processing and storing defect information in a memory noting the ~~for each of~~
          ~~the first plurality of physical~~ sectors that are identified as defective ~~during the~~
          ~~standard data processing~~; and

      ~~performing relocation,~~ upon completion of performing standard data processing and
          storing of defect information, performing relocation of the ~~for the first~~
          ~~plurality of~~ physical sectors that are identified as defective to a second area of
          the formatted disk and performing standard data processing in the second
          area, wherein the second area of the formatted disk includes a second
          plurality of physical sectors, and wherein the relocation performed is based on
          the defect information stored in the memory.

8.   (Original) The method of claim 7 wherein the standard data processing includes a
read command, a write command, or a verify command.

9.   (Original) The method of claim 7 wherein the defect information includes an address
of a logical sector that is mapped to one of the first plurality of physical sectors that is
identified as defective.

10.   (Original) The method of claim 7 wherein the defect information includes data that
the standard data processing attempted to write or verify in one of the first plurality of
physical sectors that is identified as defective.

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11. (Original) The method of claim 7 wherein performing relocation includes dynamic sector relocation.

12. (Original) The method of claim 7 wherein performing relocation includes re-mapping a logical sector from one of the first plurality of physical sectors that is identified as defective to one of the second plurality of physical sectors.

13. (Original) The method of claim 7 wherein performing relocation includes re-mapping the plurality of logical sectors from the plurality of the first physical sectors that are identified as defective to the second plurality of physical sectors.

14. (Original) The method of claim 7 wherein the first area of the formatted disk is a prime disk area.

15. (Original) The method of claim 7 wherein the second area of the formatted disk is a defect management area.

16. (Original) The method of claim 7 wherein performing relocation includes calling a single seek-process.

17. (Original) The method of claim 16 wherein the single seek-process is directed to the second area of the formatted disk.

18. (Original) The method of claim 7 wherein a time penalty required for performing relocation is substantially a constant time.

19. (Currently amended) A method in a computer system for writing information on a formatted disk and dealing with relocating bad sectors discovered on the [[a]] formatted disk, comprising:

writing processing data to [[in]] a first area of the formatted disk;

during the process of writing data, identifying any defective sectors of the first area that exist and storing defect information in a memory related to the for a plurality of identified defective sectors identified during data processing for subsequent relocation; and

relocating the plurality of defective sectors based on the defect information to a second area of the formatted disk upon completion of data writing processing,

including writing data to the second area that was intended to be written to the identified defective sectors.

20.   (Canceled)

21.   (Original) The method for relocating bad sectors on a formatted disk of claim 19 wherein the defect information includes logical to physical sector mapping.

22.   (Original) The method for relocating bad sectors on a formatted disk of claim 19 wherein the second area of the formatted disk is a defect management area.

23.   (Original) The method for relocating bad sectors on a formatted disk of claim 19 wherein relocating the bad sectors includes calling a single seek-process.

24.   (Original) The method for relocating bad sectors on a formatted disk of claim 23 wherein the single seek-process is directed to the second area of the formatted disk.

25.   (Original) The method for relocating bad sectors on a formatted disk of claim 19 wherein a time penalty required for relocating the bad sectors is substantially a constant time.

26.   (Currently amended) A method in a data storage system for responding to a request from a host computer for data processing and managing defective sectors on a data storage medium, comprising:

> performing the data processing tasks as requested by the host computer in a first
> > area of the storage media and, while performing data processing, identifying
> > defect sectors so that defect information can be stored, ~~including the storage~~
> > in memory ~~along with of defect information and~~ including the related data
> > processing task being attempted when the [[a]] defective sector of the media
> > is encountered; and

> relocating the stored data processing task to a second area of the storage media
> > after completion of the data processing tasks in the first area.

27.   (Original) The method of claim 26 wherein the data processing tasks including writing of data to the storage media.

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28.   (Original) The method of claim 26 wherein the data processing tasks including reading of data from the storage media.

29.   (Original) The method of claim 26 wherein the data processing tasks including verifying of data to the storage media.

30.   (Original) The method of claim 26 wherein relocating the stored data processing task includes re-mapping a logical sector of the data storage system from the first area to the second area.

31.   (Original) The method of claim 26 wherein relocating the stored data processing task includes re-mapping a plurality of logical sectors of the data storage system from the first area to the second area.

32.   (Original) The method of claim 26 wherein the first area is a prime disk area.

33.   (Original) The method of claim 26 wherein the second area is a defect management area.

34.   (Original) The method of claim 26 wherein relocating the stored data processing task includes calling a single seek-process.

35.   (Original) The method of claim 34 wherein the single seek-process is directed to the second area.

36.   (Original) The method of claim 26 wherein a time penalty required for relocating the stored data processing task is substantially a constant time.